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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,259	05/04/2001	Daniel R. Jeske	2925-0575P	6336
30594	7590	12/27/2005	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			WARE, CICELY Q	
P.O. BOX 8910			ART UNIT	
RESTON, VA 20195			PAPER NUMBER	
			2634	

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/848,259

Applicant(s)

JESKE ET AL.

Examiner

Cicely Ware

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 3 and 5 is/are rejected.
7) ☒ Claim(s) 2, 4 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 05 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments filed 10/5/2005 have been fully considered but they are not persuasive.

a. On Pgs. 1-2 of the **REMARKS** submitted by applicant, applicant makes reference to Claim 5. Examiner asserts that on Pg. 5 of the specification, lines 4-7, applicant clearly states that "the quasi-pilot symbols are essentially independent of the unknown data symbol polarities". In which this clearly disagrees with the recitation of the elements in claim 5. In claim 5, applicant recites "converting the received data symbol samples into quasi-pilot symbol samples based on the estimated polarities". Therefore claim 5 is not supported by the specification. The original rejection of claim 5 stands.

b. With reference to claims 1 and 3, on Pgs. 2-3 of the **REMARKS** submitted by applicant, applicant asserts that Fukuhara does not disclose that the SINR estimate is not dependent only on the polarities of the plurality of received data symbol samples. Examiner asserts that Fukuhara in fact discloses that the SNR or S/N is dependent on an element Q and the polarities (M1, M2) (Fig. 4 (8, 5, 6, 10)). Therefore the original rejection to claims 1 and 3 still stands.

Claim Rejections - 35 USC § 112

2. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 5 recites “converting the received data symbol samples into quasi-pilot symbol samples based on the estimated polarities”. Examiner is unable to find support for this limitation in the claim. Therefore claim 5 has not been further treated on the merits.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuhara (US Patent 4,627,103).

(1) With regard to claim 1, Fukuhara discloses in (Fig. 3 and Figs. 4, 9, 10) a method of estimating a signal-to-noise ratio (SINR), comprising: estimating polarities of a plurality of received data symbol samples (3); and generating an SINR estimate (Fig. 4, (10)) based on the plurality of received data symbol samples and the estimated polarities of the plurality of received data symbol samples such that the SINR estimate is not substantially dependent on a polarities of the plurality of received data symbol samples (col. 1, lines 43-55, col. 10, lines 9-20).

(3) With regard to claim 3, claim 3 inherits all the limitations of claim 1. Fukuhara further discloses in (Figs. 4, 9, 10) estimating bit values (4) of a plurality of received data symbol samples (8, 3) (col. 3, lines 23-29, col. 10, lines 21-31).

Allowable Subject Matter

5. Claims 2, 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method of estimating a signal-to-noise ratio. Prior art references show similar methods but fail to teach: **“wherein the generating step multiplies each of the plurality of received data symbol sample by an associated estimated polarity and generates the SINR estimate using the multiplication results as data symbol samples in an SINR estimation algorithm”**, as in claims 2 and 4.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
December 15, 2005



STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600